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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,971	09/25/2000	Mitihiko Takase	10873.574US01	3140

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/668,971

Applicant(s)

TAKASE ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-8,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 6, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higaki et al in view of Yamada et al.

Higaki discloses a surface acoustic wave device comprising a piezoelectric substrate 4, a first and second transducer 5 opposed to each other, the substrate including a region (see abstract) with a thickness of 50nm (column 10, lines 58,59) and an insulating layer 6 on top of the electrodes (see figure 10).

Moreover, there is a plurality of conductive regions 11 between the first and second transducer and current flows between the first and second transducer via conductive regions (see figure 1).

However, Higaki et al does not disclose having a surface between the IDT's that has a lower resistance than an inner portion of the piezoelectric substrate.

On the other hand, Yamada et al discloses for the purpose of suppressing generation of noise, an IDT 12 and IDT 12', a piezoelectric substrate 11 and a

surface 13 with a lower resistance than an inner portion of the substrate 11 (see figure 1A, column 2, lines 19-21). Moreover, due to the resistance 13, current may be able to flow between the IDT's 12 and 12' since electrical signals may flow between the IDT's (column 2, lines 38-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a surface acoustic wave device as disclosed by Higaki et al and to modify the invention by explicitly making a portion between the IDT's with a lower resistance than an inner portion for the purpose of suppressing generation of noise as disclosed by Yamada et al.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higaki et al and Yamada et al as applied to claim 6 above, and further in view of Ohkubo et al.

The combined surface acoustic device discloses all of the elements above. However, the combined surface acoustic device does not disclose that the insulating layer is made of metal nitride.

On the other hand, Ohkubo et al discloses for the purpose of processing signals at high frequencies without increasing propagation losses that the insulating layers can be made of metal oxide or metal nitride (column 17, lines 38-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined surface acoustic wave device as disclosed above and to modify the invention by using nitride in an insulating layer for the purpose of processing signals at high frequencies without increasing propagation losses as disclosed by Ohkubo et al.

4. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higaki et al and Yamada et al as applied to claims 3 and 6 above, and further in view of ordinary skill in the art.

The combined surface acoustic device discloses all of the elements above. However, the combined surface acoustic device does not disclose the ranges of the resistance of the region and the insulating layer.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

Response to Arguments


5. Applicant's arguments with respect to claims 1-8, 22 and 23 have been considered but are moot in view of new ground of rejection

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


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Jcg

October 1, 2002